

# LoRaWAN for Gas Metering

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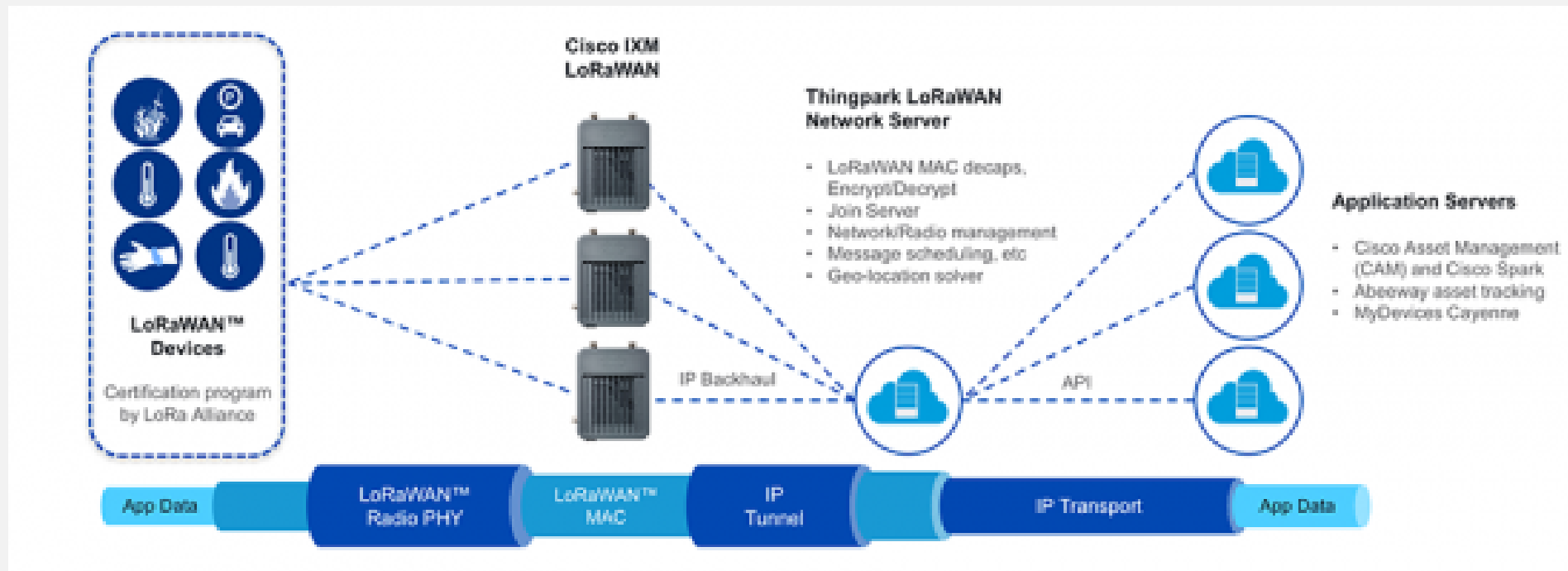


# What is LoRaWAN

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- Long Range
- Low Power Consumption
- Different network deployment models which give freedom of choice to B2B customers (public and private networks)
- Open-source protocol is based on industry collaboration, allowing us to achieve a stronger technology that is truly future-proof

# LoRaWAN Structure

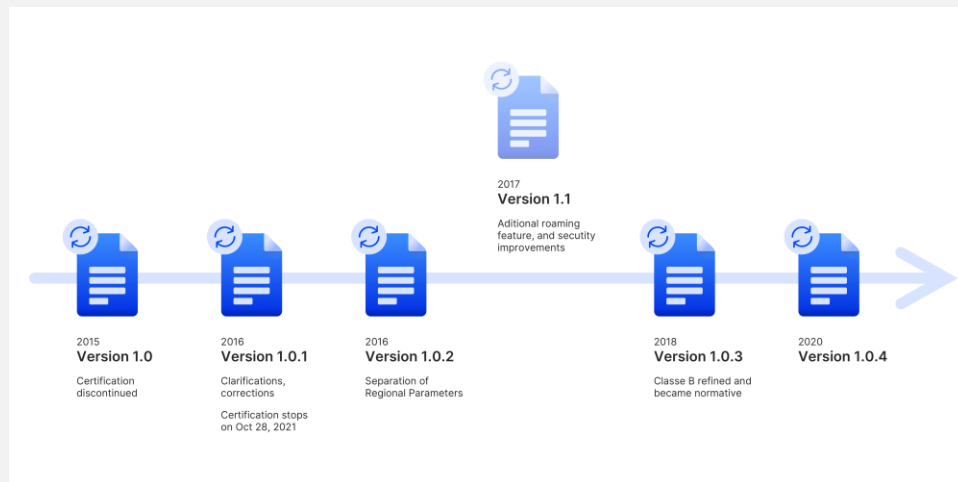


# LoRaWAN 2018



- Few 10s commercial devices connected to networks across Greece
- Network Standard v.1.0.3 very early standard for telecommunication technology.
- Lot of Bugs and troubleshooting
- Not ability to FUOTA

# LoRaWAN 2023 Newest Version

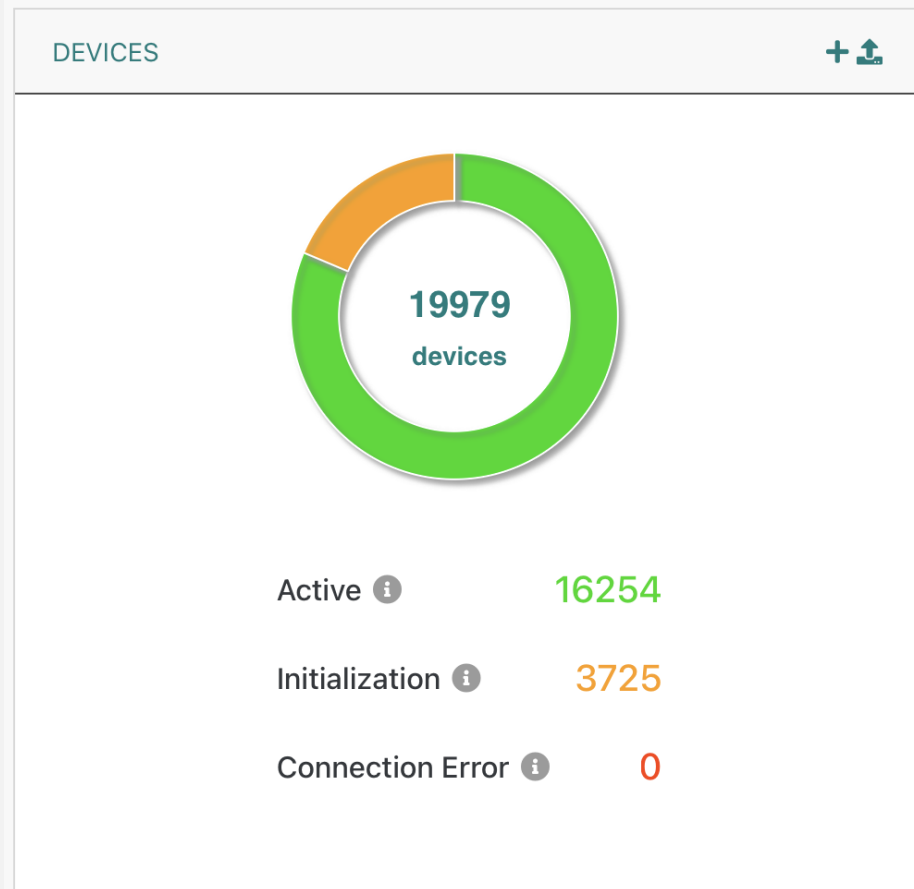


- Security enhancement
- Refined ADR management
- Retransmission backoff
- Lower Power

# LoRaWAN 2023

- Multiple cities Across Greece and Cyprus have chosen LoRaWAN for their IoT communication protocol.
  - Athens
  - Rethymno
  - Volos
  - Alexandroupolis
  - Thessaloniki
  - Edessa
  - Chania
  - Trikala
  - Nicosia
  - Paphos
  - Vyronas
  - ....

# LoRaWAN 2023 Case of Paphos



- This is Paphos Network Deployment for Smart Parking, Water Meters and others
- Very Low CAPEX for Municipality
- Almost zero OPEX Because all the costs are paid upfront from the Tender.

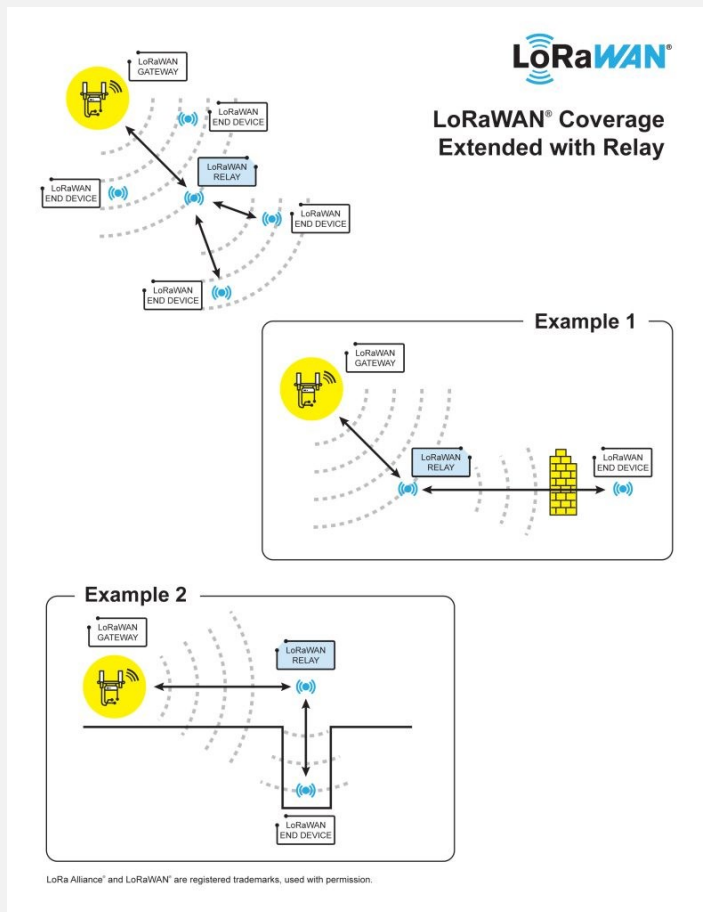
# Key Challenges for Deploying LoRaWAN for Municipalities.



- Location for Gateway installation
  - Municipalities don't usually have idea locations for wireless networks.
- Accuring new location may require OPEX for leasing.



# Overcomming blind spot – improving coverage



- By enabling relay, the device can transfer LoRaWAN frames between an end-device and network when there is insufficient coverage from the gateway.
- Battery operated relays can improve coverage in hard to reach areas.

# LoRaWAN in Future

Research estimates that LoRaWAN® will be the leading non-cellular LPWAN technology by 2026. It will account for more than half of all non-cellular LPWA connections, ensuring the start of a splendid future. In the segment of Low Power Wide Area Networks (LPWAN), LoRaWAN® is the most popular technology.

